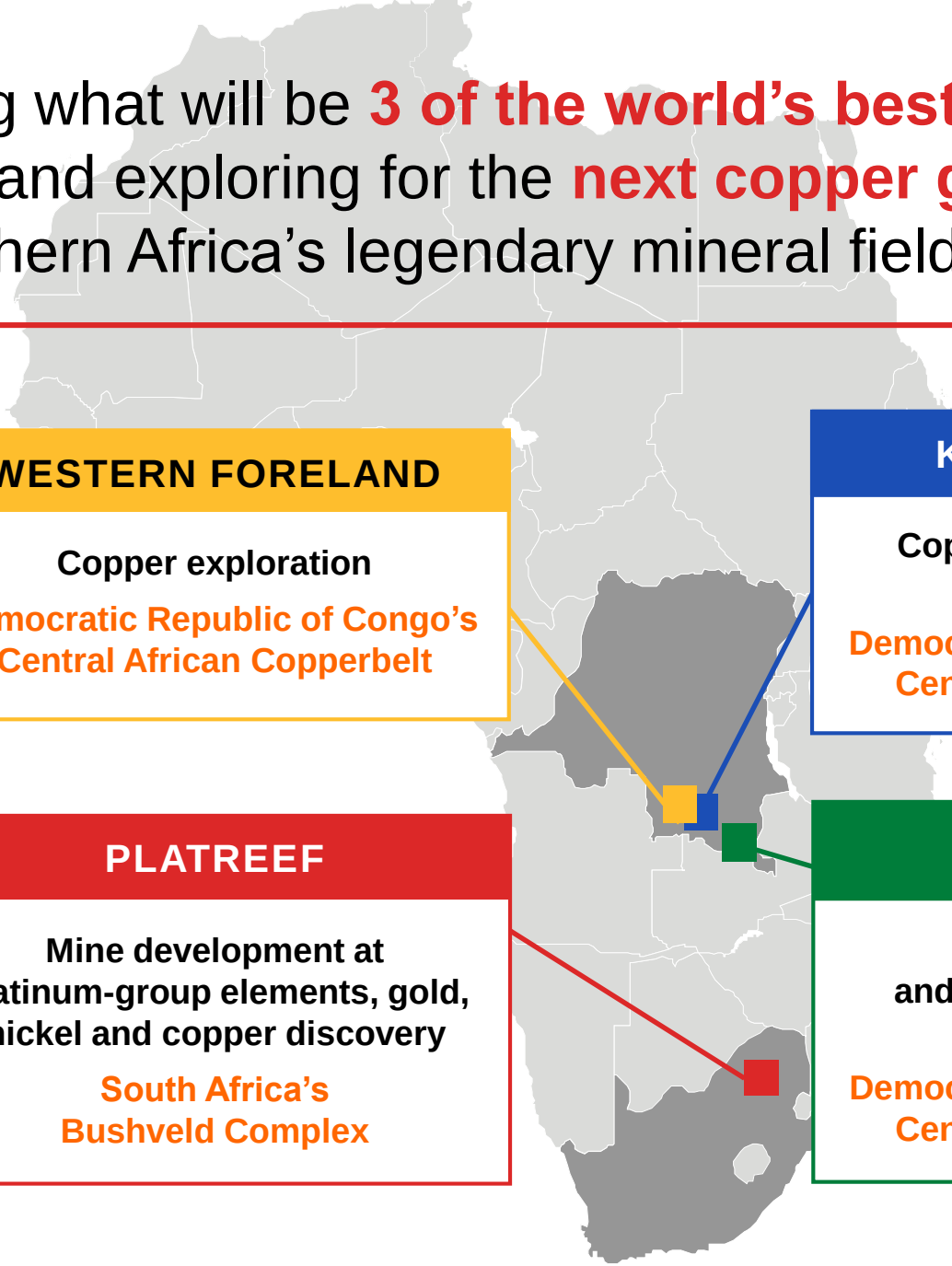
IVANHOE MINES
NEW HORIZONS

PROGRESS GALLERY / DECEMBER 2019

Building futures. Strengthening communities.

In a ceremony to celebrate the DRC's National Arbor Day on December 2nd, His Excellency Willy Kitobo Samsoni (right), DRC's Minister of Mines, presents Ben Muding (left), Kamoa-Kakula's Environmental Officer, an award recognizing the project's commitment to environmental conservation and responsible mine development.

Building what will be **3 of the world's best mines** and exploring for the **next copper giant** in Southern Africa's legendary mineral fields



WESTERN FORELAND

Copper exploration

Democratic Republic of Congo's Central African Copperbelt

KAMOA-KAKULA

Copper mine development and exploration

Democratic Republic of Congo's Central African Copperbelt

PLATREEF

Mine development at platinum-group elements, gold, nickel and copper discovery

South Africa's Bushveld Complex

KIPUSHI

Zinc, copper, silver and germanium at historic, high-grade mine

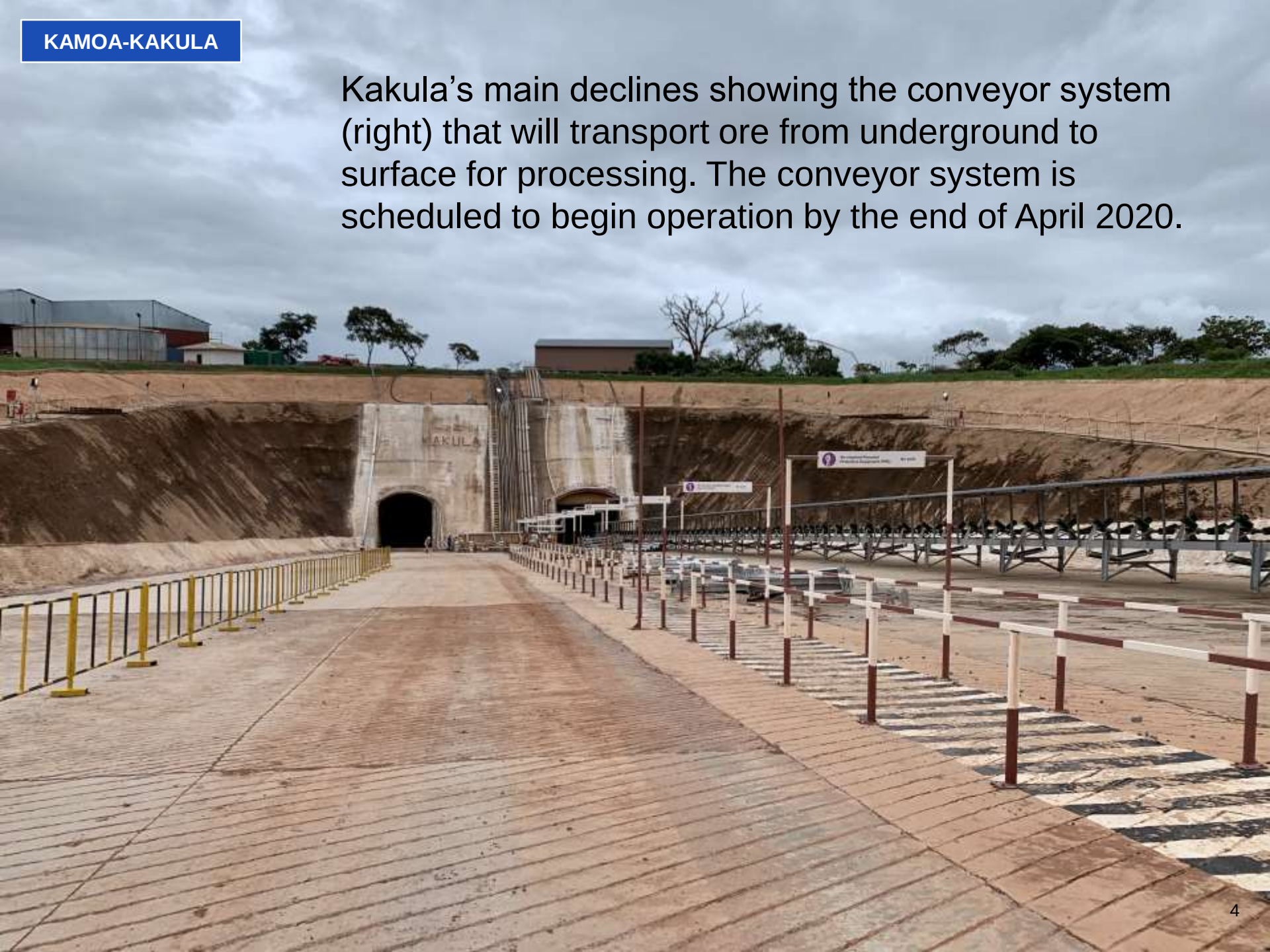
Democratic Republic of Congo's Central African Copperbelt

KAMOA-KAKULA, DRC

Underground development at the Kakula Mine, using large-scale, mechanized drills and trucks (such as the jumbo drill shown on the left) remains ahead of schedule.

More than 1,000 metres of underground development is forecast to be completed in December, which would put Kakula's underground development approximately 1,700 metres ahead of the mine plan as per the Stantec Basic Engineering design.

Kakula's main declines showing the conveyor system (right) that will transport ore from underground to surface for processing. The conveyor system is scheduled to begin operation by the end of April 2020.



Samples of ultra-high-grade, chalcocite-rich ore obtained from Access Drive 2 in ongoing underground development at the Kakula Mine.

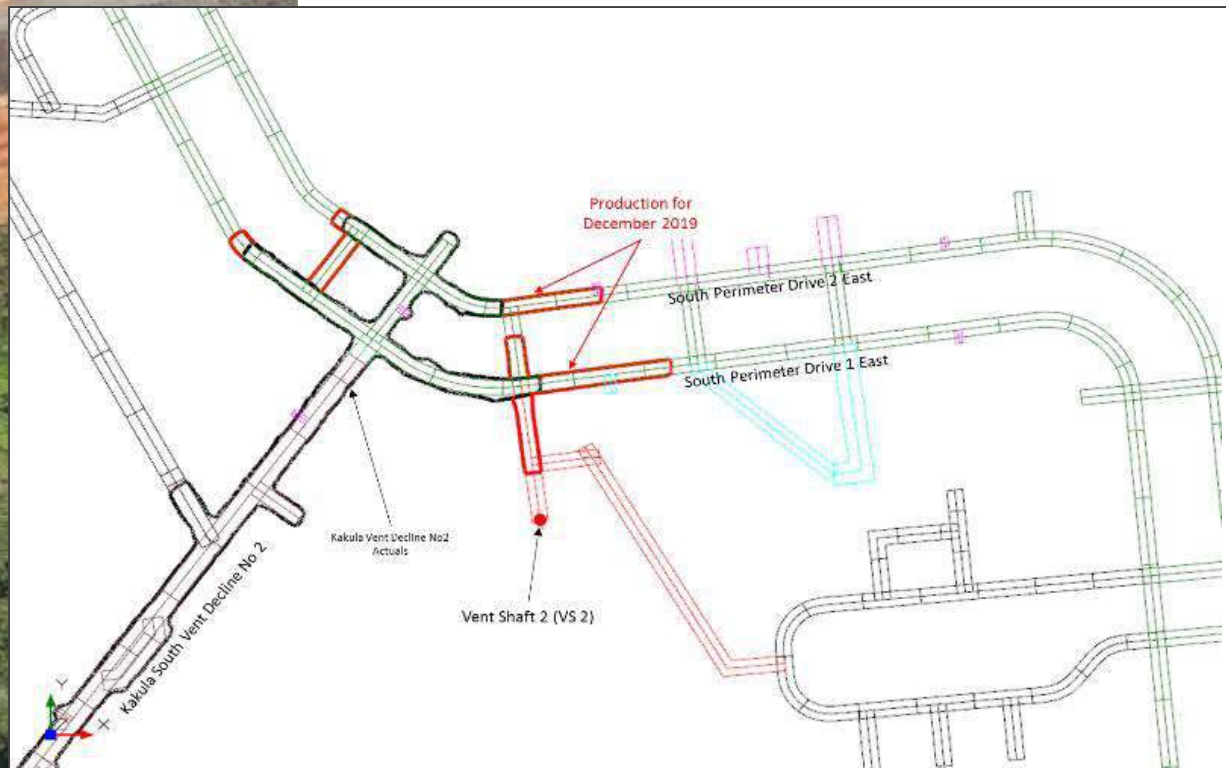
Top: George Gilchrist, Ivanhoe's Vice President, Geosciences (left), shows visitors samples of high-grade drill core from the Kamoa North Bonanza Zone.

Right: Mine geologist Didier Masengo takes a Niton reading from a high-grade sample collected during Kakula's underground development.

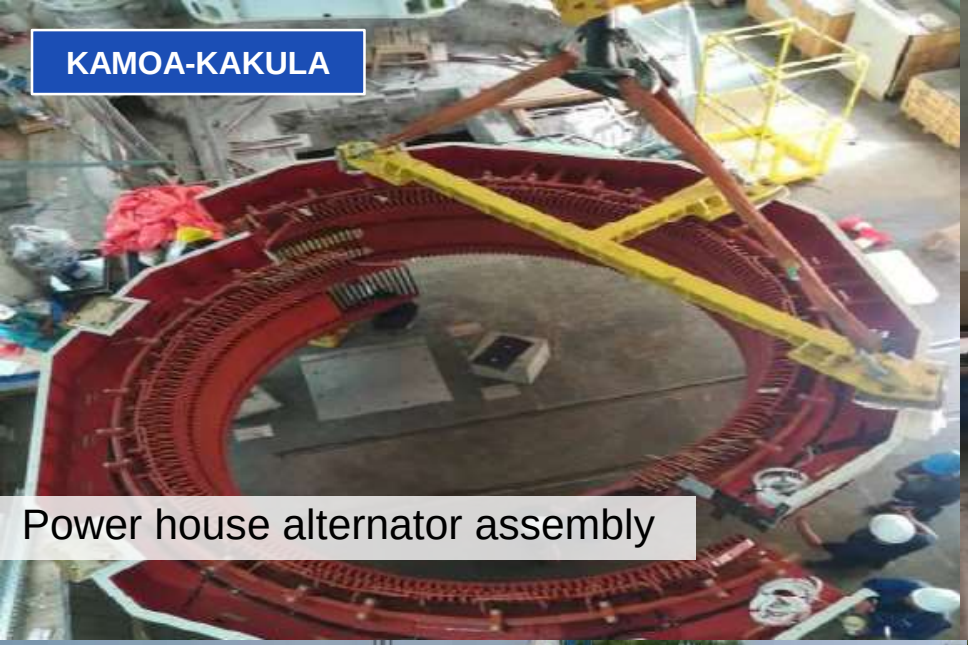
Samples of sand obtained from the Kamoa-Kakula area for testing in Kakula's backfill plant. When Kakula's processing plant is in operation, approximately 55% of the tailings will be mixed with sand and cement in the backfill plant, then pumped back underground into the mined-out workings.

KAMOA-KAKULA

View of Kakula's Southern ventilation decline (left), which has now been completed. Underground development work from this decline is focused on advancing the two south-perimeter drives (below).



Hydrogeological drilling at the Kamoa North Bonanza Zone by engineers from Golder Associates. The work is being done in conjunction with geotechnical and metallurgical testing for mine and plant design at the new discovery.



Power house alternator assembly

Electrical cabinets installation

Installation of new penstocks

Valve chamber works

Ongoing upgrading work at the Mwadingusha hydropower plant in the DRC that will soon be supplying the Kamoa-Kakula Project with clean, sustainable hydro electricity.

KAMOA-KAKULA

Ongoing construction of the ore conveyor system on surface

Excellent progress is being made on the ore handling system at the Kakula Mine.

Concrete lining for the underground ore pass

Workers at the bottom of the ore transfer bin

Two farmers walk alongside one of the local community gardens and fish-farming areas. The Livelihood Program at Kamoa-Kakula has a demonstration garden where environmentally-friendly, sustainable farming practices are tested and adjusted before community members are trained on applying the practices in their own food gardens.

Women from the small community of Lwansenga prepare their eggs for sale. As part of Kamoa-Kakula's Livelihood Program, local farmers can sell their products to the Kamoa-Kakula camp, generating much needed additional income.

Sample of high-grade palladium-platinum-rhodium- nickel-copper-gold ore from Platreef's surface ore stockpiles. Palladium's price has surpassed US$2,000 an ounce thanks to strong demand and a worsening supply shortfall.

The price increase continues to propel the Platreef Project "metals-price basket" to new, multi-year highs.

Ivanhoe Mines is investigating an alternative production plan for the Platreef Project, targeting significantly lower initial capital, to accelerate first production by using Shaft 1 as the mine's initial production shaft.

Engineers surveying Shaft 1’s 950-metre-level station. The kibble (bucket), used for hoisting broken rock to surface, is positioned for filling.

New 630 drill rig arrives on site. The drill will be used for the second phase of mine development at the 950-metre-level station.

PLATREEF

Johannes (Strata Control Observer Trainee) and Ayakha (Geotechnical Engineer) perform a geotechnical inspection of Shaft 1’s development rock stockpile

PLATREEF

Prince Mashilo (left), a local mining engineer graduate, completes training in sinking operations conducted by Remaketse Matli (right). Ivanhoe Mines' recruitment policy prioritizes recruiting local people from the projects' host communities.

Platreef and Moolmans (formerly Aveng) team members show off their prizes received in recognition of their outstanding efforts in the project's ongoing safety campaign.

PLATREEF

In an effort to alleviate challenges faced by people living with disabilities in Platreef's host community of Mokopane, Ivanplats held a training program that enabled participants to gain skills that will help them access employment and economic opportunities in the mining sector and other industries.

To hear from some of the participants at the event, click here.

KIPUSHI, DRC

Kamanda, Mario and Henock install a pump column to Kipushi’s 850-metre-level pump chamber.

Mpoyo drilling pin holes for support for a water pump column.

Micka installing the main column to feed pumps at Kipushi’s 850-metre-level.

In preparation for mining at Kipushi's Big Zinc Deposit, crews leveled out the 1,220-metre-level roadway that accesses the ultra-high-grade zinc deposit.

Government environmental inspectors visiting Kipushi’s underground mine.

Kabeya and Mario demonstrate the proper use of a stretcher during a safety drill at the 1,138-metre-level refuge bay.

Raymond Mutumbwe working on a diaphragm plate for a pump that will be installed at the 710-metre-level station.

KIPUSHI

On December 2nd, the Kipushi Project teamed up with local students to celebrate National Arbor Day by planting 1,000 trees in local communities.

HAPPY HOLIDAYS





From of our team of talented mine finders, developers and community leaders, we wish all of our stakeholders, shareholders and employees Happy Holidays, and a Happy and Healthy 2020! May the peace and joy of the season stay with you all year long.